

Abstract

A continuously variable transmission for use with motor vehicles includes and electronic control unit, and automated gear unit, a variator, an input gear set, an input fixed ratio element and an output fixed ratio element. The electronic control unit is configured to include logic rules for controlling a transmission, the logic rules including issuing transmission control commands. The automated gear unit has gears providing a plurality of selectively engaged gear ratios and engages one of the plurality of gear ratios responsive to commands from the electronic control unit to do so. The gear unit has a gear unit input shaft and a gear unit output shaft. The variator has a variator input shaft and a variator output shaft. The variator is configured to continuously vary a ratio of input torque to output torque between the variator shafts responsive to commands from the electronic control unit. The variator output shaft is drivingly connected to the gear unit input shaft. The input gear set is drivingly connected to the variator input shaft. The input fixed ratio element is configured to reduce the torque from the input gear set to the variator and is operably disposed between the input gear set and the variator input shaft. The output fixed ratio element is configured to increase the torque from the variator and is operably disposed between the variator output shaft and the gear unit input shaft.